

РОССИЙСКАЯ АКАДЕМИЯ НАУК
Южный научный центр

RUSSIAN ACADEMY OF SCIENCES
Southern Scientific Centre



Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 15. Вып. 2

Vol. 15. No. 2



Ростов-на-Дону
2019

**The aculeate Hymenoptera in the collection of the Institute of Zoology
of the National Academy of Sciences of Azerbaijan, Baku.
Part 4. Wasps of the family Vespidae (Hymenoptera: Vespoidea)**

**Жалящие перепончатокрылые в коллекции Института зоологии
Национальной Академии наук Азербайджана, Баку.
Часть 4. Осы семейства Vespidae (Hymenoptera: Vespoidea)**

© **Kh.A. Aliyev**¹, **M.M. Maharramov**², **A.A. Mammadov**¹
© **Х.А. Алиев**¹, **М.М. Магеррамов**², **А.А. Мамедов**¹

¹Institute of Zoology of the National Academy of Sciences of Azerbaijan, passage 1128, district 504, Baku AZ 1073 Azerbaijan. E-mail: khalidalaliyev@mail.ru

²Institute of Bioresources of Nakhchivan Branch of the National Academy of Sciences of Azerbaijan, Babak str., 10, Nakhchivan AZ 7000 Azerbaijan. E-mail: mahir_maherramov@mail.ru

¹Институт зоологии НАН Азербайджана, проезд 1128, квартал 504, Баку AZ 1073 Азербайджан

²Институт биоресурсов Нахичеванского отделения НАН Азербайджана, ул. Бабек, 10, Нахичевань AZ 7000 Азербайджан

Key words: Vespidae, Azerbaijan, fauna, distribution, species.

Ключевые слова: Vespidae, Азербайджан, фауна, распространение, виды.

Abstract. Wasps of the family Vespidae in the collection of the Institute of Zoology of the National Academy of Sciences of Azerbaijan (Baku) are represented by 28 genera and 59 species, nine of them, *Ancistrocerus dusmetiolus*, *Odynerus (Spinicoxa) reniformis*, *Pseudepipona (Pseudepipona) lativentris*, *Polistes (Polistes) bischoffi*, *P. (P.) dominula*, *P. (P.) semenowi*, *Dolichovespula media*, *D. sylvestris* and *Vespula vulgaris*, are new to the fauna of Azerbaijan. A total of 57 species are reported from Azerbaijan, eight from Russia (mainly from Itum-Kale in Chechen Republic and Botlikh in Dagestan; several deposited specimens were collected in Ural, Crimea, Vologda and Leningrad regions), three from Ukraine, two each from Turkmenistan, Iran and Kazakhstan, and one each from Georgia and Uzbekistan. Habitats and general geographic distribution is given for each species.

Резюме. Осы семейства Vespidae представлены в коллекции Института зоологии Национальной Академии наук Азербайджана (Баку) 59 видами из 28 родов. Из них 9 видов, *Ancistrocerus dusmetiolus*, *Odynerus (Spinicoxa) reniformis*, *Pseudepipona (Pseudepipona) lativentris*, *Polistes (Polistes) bischoffi*, *P. (P.) dominula*, *P. (P.) semenowi*, *Dolichovespula media*, *D. sylvestris* и *Vespula vulgaris*, впервые отмечены для фауны Азербайджана. Всего в коллекции хранится 57 видов из Азербайджана, 8 – из России (в основном из Итум-Кале в Чеченской Республике и Ботлиха в Дагестане; некоторые коллекционные экземпляры были собраны на Урале, в Крыму, в Вологодской и Ленинградской областях), 3 – с Украины, по 2 из Туркменистана, Ирана и Казахстана, по одному из Грузии и Узбекистана. Для каждого вида приведены ландшафтно-биотопическая приуроченность и общее географическое распространение.

Introduction

Vespidae are spread all over the world except Antarctica. Currently, there are 5274 species in the fauna of the planet belonging to 256 genera, four subfamilies (Masarinae, Eumeninae, Polistinae, Vespinae) of the family Vespidae. In the Palaearctic 1181 species and 90 genera of the family are known [Antropov et al., 2017].

In Russia, it could be 201 and 39 if add the data by Fateryga and Mokrousov [2019]; 298 species and subspecies and 53 genera have been reported from Turkey [Yıldırım, 2012; Yıldırım, Gusenleitner, 2012], and 182 species and 51 genera from Iran [Ebrahimi, Carpenter, 2008].

Only *Vespa crabro* Linnaeus, 1758, *Vespula germanica* (Fabricius, 1793), *Polistes chinensis* (Fabricius, 1793), *P. gallicus* (Linnaeus, 1767), *P. nimpha* Christ, 1791, *Katamenes sichelii* (de Saussure, 1852), *Odynerus dantici* Rossi, 1790, *Ancistrocerus parietum* Linnaeus, 1758 have hitherto been recorded from the Republic of Azerbaijan [Bogachev, 1951; Aliyev, 1996]. At least 50 species of Eumeninae were reported by Aliyeva [2010]. Then, 66 species of Eumeninae were reported by Fateryga et al. [2019] and an additional one by Fateryga and Mokrousov [2019]. Some of them were even described from Azerbaijan by Morawitz [1885, 1895] and Kostylev [1940]. At least 2 species of Masarinae could be added (*Celonites laetus* Panfilov, 1968 described from Azerbaijan and *C. tauricus* reported by Fateryga [2017]).

The present contribution provides an annotated list of species of the family Vespidae kept in the collection of the Institute of Zoology, National Academy of Sciences of Azerbaijan, Baku. The material comes from the entire territory of Azerbaijan, as well as Russia, Iran, Georgia, Turkmenistan, Uzbekistan, Kazakhstan, and Ukraine, mostly using Malaise traps and entomological nets set in

montane or steppe landscapes. The taxonomy and general distributions of Vespidae follows several literature sources [Tobias, Kurzenko, 1978; Carpenter, 1986, 1996, 2001; Carpenter, Kojima, 1997; Antropov et al., 2017].

The collectors' names, when known, are abbreviated as follows: AB – A. Bogachev; KhA – Kh. Aliyev; MV – M. Vinovsky; ID – I. Drapolyuk; EE – E. Elistratov; VR – V. Rusanova; OA – O. Aliev; M – Mamedov; S – Suvorov; So – Soldatov; MM – M. Maharramov; EG – E. Guseynov; T – Tertyshnikov; AM – A. Mammadov.

The species newly reported from Azerbaijan are marked with an asterisk *.

Family Vespidae

Subfamily Eumeninae

Genus *Alastor* Lepeletier de Saint Fargeau, 1841

Alastor (Alastor) mocsaryi (André, 1884)

= *A. biegelebeni* Giordani Soika, 1942.

Material. Azerbaijan: 1♀, Zakataly, Perzivan, 19.05.1987 (KhA).

Note. The species lives in lowland forested landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Syria, Lebanon.

Genus *Ancistrocerus* Wesmael, 1836

Ancistrocerus auctus (Fabricius, 1793)

Material. Azerbaijan: 1♀, Agdash, Turianchay State Nature Reserve, 4.10.1994 (KhA).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Syria, Jordan, Israel, Iraq, Iran, Central Asia, Kazakhstan.

Ancistrocerus claripennis Thomson, 1874

Material. Azerbaijan: 1♂, Absheron, Inzhirnyaya, on *Foeniculum*, 25.08.1986 (KhA).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Iran, Tajikistan, China.

**Ancistrocerus dusmetiolus* (Strand, 1914)

Material. Azerbaijan: 1♀, Khyzy, Diravar, 10.08.2000 (KhA).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (Western and Eastern Siberia), Turkey, Azerbaijan, Afghanistan, Central Asia, Kazakhstan.

Ancistrocerus gazella (Panzer, 1798)

Material. Azerbaijan: 1♀, Nakhchivan Autonomous Republic, Shakhbuz, Batabat, ca 1790 m, 26.07.2016 (MM).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part),

Caucasus, Turkey, Cyprus, Israel, Iran, Afghanistan, North America, New Zealand.

Ancistrocerus parietum (Linnaeus, 1758)

Material. Azerbaijan: 1♂, Nakhchivan, 20.05.1933 (AB). Kazakhstan: 1♀, Zaysan. Ukraine: 1♀, 13.08.1921.

Note. The species inhabits lowland semi-desert landscapes.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Caucasus, Turkey, Iran, Kazakhstan, Central Asia, China, Mongolia, Korean Peninsula, North America.

Genus *Antepipona* de Saussure, 1855

Antepipona cribrata (Morawitz, 1885)

= *Odynerus cribratus* Morawitz, 1890.

Material. Azerbaijan: 1♀, Poylu village, Eldar, on flowers, 18.05.1935 (MV).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Russia (European part), Azerbaijan, Turkey, Afghanistan.

Antepipona deflenda (S. Saunders, 1853)

= *Odynerus parvulus* Lepeletier de Saint Fargeau, 1845.

Material. Azerbaijan: 1♀, Nakhchivan, 31.05.1933 (AB). Kazakhstan: 1♀, Uralsk, 6.06.1927 (leg. V. Koloskov).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals), Caucasus, Turkey, Cyprus, Lebanon, Israel, Jordan, Iraq, Iran, Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, China.

Antepipona orbitalis (Herrich-Schäffer, 1839)

Material. Azerbaijan: 2♀, Agdash, Turianchay State Reserve, 7.05.1992 (KhA); 2♀, Nakhchivan Autonomous Republic, Nakhchivan, 920 m, 14.09.2016 (MM).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia), Caucasus, Turkey, Kazakhstan, Mongolia.

Genus *Brachyodynerus* Blüthgen, 1938

Brachyodynerus quadrimaculatus (André, 1884)

Material. Russia: 1♂, Checheno-Ingushetia [now Chechen Republic], Sovetskoe, Itum-kala, 30.06.1987 (ID).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Europe (Southern), Russia (European part), Azerbaijan, Turkey.

Genus *Delta* de Saussure, 1855

Delta unguiculatum (Villers, 1789)

Material. Azerbaijan: 2♀, Agdash, Turianchay State Nature Reserve, 5.08.1994 (KhA).

Note. This species inhabits foothill steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Cyprus, Syria, Lebanon, Israel, Saudi Arabia, Iran, Central Asia.

Genus *Discoelius* Latreille, 1809

Discoelius dufourii Lepeletier de Saint Fargeau, 1841

Material. Azerbaijan: 1♀, Shakh-dagh Mt, 2000 m, Laza, 25.09.1933 (AB). Russia: 1♀, Checheno-Ingushetia [now Chechen Republic], Sovetskoe, Itum-Kala, 28.06.1987 (ID).

Note. This species inhabits subalpine landscapes.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Caucasus, Turkey, Iran, Kazakhstan, China, Mongolia, Korean Peninsula.

Discoelius zonalis (Panzer, 1801)

Material. Russia: 1♀, Ural, western slope of Kolosleyka Mt, Minyar, on fire weed, 8.08.1986 (ID).

Note. This species inhabits foothill steppe landscapes.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Caucasus, Turkey, Iran, China, Mongolia, Korean Peninsula, Japan.

Genus *Eumenes* Latreille, 1802

Eumenes (Eumenes) coarctatus (Linnaeus, 1758)

= *E. lumulatus* Fabricius, 1804.

Material. Azerbaijan: 1♀, Kirovabad [now Ganja], 29.07.1932, (MV); 1♂, same locality, 27.08.1932 (MV); 4♂, Milskaya steppe, 14–26.05.1934 (AB); 1♂, Eli-su, Kakh Distr., 1900 m, 11.07.1934 (AB); 1♀, Baku, 4.09.1934 (AB); 1♂, Samukh, Garagashly, 3.06.1935 (AB); 1♂, Shemakha, Mejsary, 2.07.1937 (AB); 1♂, Agdash, Turianchay State Nature Reserve, 5.10.1998 (KhA); 1♀, Nakhchivan Autonomous Republic, Babek, Shikmahmud, 945 m, 14.06.2016 (MM). Georgia: 1♂, Suram, 25.07.1911 (MV).

Note. This species inhabits lowland steppe and semi-desert, foothill steppe and middle mountain landscapes.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Caucasus, Turkey, Cyprus, Syria, Israel, Jordan, Iran, Kazakhstan, Central Asia, China, Mongolia, Japan.

Eumenes (Eumenes) dubius de Saussure, 1852

Material. Azerbaijan: 2♂, Agdash, Turianchay State Nature Reserve, 5–7.08.1994 (KhA); 1♂, same locality, 5.10.1998 (KhA); 3♀, Khyzy, Dizavar, 10.08.2000 (KhA).

Note. This species inhabits foothill steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Cyprus, Syria, Lebanon, Israel, Jordan, Iraq, Iran, Kazakhstan, Turkmenistan, Tajikistan, South America.

Eumenes (Eumenes) mediterraneus Kriechbaumer, 1879

Material. Azerbaijan: 1♀, Absheron, Inzhirnaya, 13.09.1986 (KhA); 1♀, Baku, 16.09.1986 (KhA); 5♀, 1♂, Agdash, Turianchay State Nature Reserve, 30.09.–4.10.1994 (KhA); 1♀, same locality, 5.10.1998 (KhA).

Note. This species inhabits foothill steppe and lowland semi-desert landscapes in sandy places.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Cyprus, Syria, Lebanon, Israel, Jordan, Saudi Arabia, Yemen, Oman, Iraq, Iran, Afghanistan, Pakistan, Kazakhstan, Central Asia, China, Mongolia, Korean Peninsula.

Eumenes (Eumenes) pomiformis (Fabricius, 1781)

Material. Azerbaijan: 1♀, Agdash, Turianchay State Nature Reserve, 8.05.1994 (KhA); 5♀, 1♂, same locality, 30.09–4.10.1994 (KhA); 1♀, 1♂, Kazakh, 11.05.1979 (KhA). Russia: 1♂, Checheno-Ingushetia [now Chechen Republic], Sovetskoe, Itum-Kala, 30.06.1987 (ID).

Note. This species inhabits foothill steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part, Urals), Caucasus, Turkey, Lebanon, Pakistan, Kazakhstan, Central Asia, India, China, Korean Peninsula.

Eumenes (Eumenes) subpomiformis Blüthgen, 1938

Material. Azerbaijan: 1♂, Absheron, Dubendy, 25.05.1999 (EG); 1♀, Khyzy, Dizavar, 10.08.2000 (KhA). Uzbekistan: 1♂, Kitab State Nature Reserve, Obie, 18.06.1989 (So).

Note. This species inhabits lowland semi-desert and foothill steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Lebanon, Israel, Kazakhstan, Central Asia.

Genus *Euodynerus* Dalla-Torre, 1904

Euodynerus (Euodynerus) caspicus (Morawitz, 1873)

Material. Azerbaijan: 1♂, Absheron, Dubendy, 25.05.1999 (EG); 1♂, 1♀, Salyan, Bendovan, 30.05.2000 (KhA).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. Russia (European part), Azerbaijan, Iran, Kazakhstan, Turkmenistan, Kyrgyzstan, China, Mongolia.

Euodynerus (Euodynerus) dantici (Rossi, 1790)

Material. Azerbaijan: 1♀, Kurtmakhmudlu village, Karyaginsk, 3.05.1929 (EE); 1♀, Kirovabad [now Ganja], 18.06.1933 (MV); 1♀, 1♂, Milskaya steppe, 16.06.1934 (AB); 1♀, Talysh, Alekseevka, 7.08.1936 (AB); 1♂, Vedi, Khosrov State Nature Reserve, 23.06.1980 (KhA). Russia: 1♀, Sympheropol, 10.06.1922 (leg. Merkulov).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part, Urals, Eastern Siberia, Far East), Caucasus, Turkey, Syria, Lebanon, Jordan, Iran, Afghanistan, Kazakhstan, Central Asia, China, Mongolia, Korean Peninsula, Southern Asia, Japan.

Euodynerus (Euodynerus) disconotatus (Lichtenstein, 1884)

Material. Azerbaijan: 1♀, Khyzy, Diravar, 10.08.2000 (KhA).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey,

Cyprus, Jordan, Saudi Arabia, Iraq, Iran, Afghanistan, Pakistan, Kazakhstan, Central Asia.

Euodynerus (Pareuodynerus) posticus
(Herrich-Schäffer, 1841)

Material. Azerbaijan: 1♂, Nakhchivan Autonomous Republic, Shakhbuz, Batabat, 1850 m, 12.06.2016 (MM).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Israel, Iran.

Genus *Eustenancistrocerus* Blüthgen, 1938
Eustenancistrocerus (Parastenancistrocerus) amadanensis
(de Saussure, 1855)

= *E. transitorius* (Morawitz, 1890).

Material. Azerbaijan: 1♀, Lerik, Kosmalyan, 25.07.1987 (KhA); 1♀, Salyan, Shirvan State Nature Reserve, 6.06.1999 (KhA); 1♀, Nakhchivan Autonomous Republic, Shakhbuz, Kulus, 1450 m, 3.07.2016 (MM).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. North Africa, Europe (Southern and Eastern), Russia (European part), Caucasus, Turkey, Cyprus, Syria, Israel, Saudi Arabia, Iraq, Iran, Pakistan, Kazakhstan, Central Asia.

Genus *Hemipterochilus* Ferton, 1909
Hemipterochilus aberrans (Morawitz, 1885)

Material. Azerbaijan: 1♂, Nakhchivan Autonomous Republic, Shakhbuz, Batabat, 1870 m, 12.07.2016 (MM).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Europe (Southern and Eastern), Armenia, Azerbaijan, Turkey, Syria, Lebanon.

Hemipterochilus bembeciformis (Morawitz, 1867)

Material. Azerbaijan: 1♀, Milskaya steppe, 25.05.1934 (AB). Russia: 1♀, Dagestan, Botlikh, Tlokh, 10.05.1988 (KhA).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (European part, Urals), Caucasus, Turkey, Kazakhstan, Central Asia.

Hemipterochilus sp.

Material. Azerbaijan: 2♂, Kalaalty, 4.06.1986 (leg. G. Huseynzadeh); 1♀, Nakhchivan Autonomous Republic, Ordubad, Bilav, 1300 m, 2.06.2016 (MM).

Note. These samples could not be identified to the species level.

Genus *Ischnogasteroides* Magretti, 1884
Ischnogasteroides sp.

Material. Azerbaijan: 1♂, Agdash, Turianchay State Nature Reserve, 7.08.1994 (KhA); 1♀, Nakhchivan Autonomous Republic, Nakhchivan, 900 m, 14.09.2016 (KhA, MM).

Note. These samples could not be identified to the species level.

Genus *Jucancistrocerus* Blüthgen, 1938
Jucancistrocerus jucundus (Mocsary, 1883)

Material. Azerbaijan: 1♀, Eldar, Poylu, 18.05.1935 (AB); 1♀, Samukh, Garagashly, 3.06.1935 (AB); 1♂, Nakhchivan Autonomous Republic, Shakhbuz, Kulus, 1450 m, 3.06.2016 (MM).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. Europe (Southern and Eastern), Caucasus, Turkey, Afghanistan.

Genus *Katamenes* Meade-Waldo, 1910
Katamenes sichelii (de Saussure, 1852)

= *Eumenes baerii* Radoszkowski, 1893.

Material. Azerbaijan: 1♀, Absheron, Amiradzhany, 17.06.1933 (VR); 1♀, Baku, Zyk, 24.06.1936 (T); 5♀, 1♂, Baku, Botanical garden, 10.06.1937 (MV); 2♀, Baku, 23.09.1937 (MV).

Note. The species lives in lowland semi-desert landscapes.

Distribution. North Africa, Europe (Southern), Russia (European part, Urals), Caucasus, Turkey, Israel, Jordan, Saudi Arabia, Iraq, Iran, Afghanistan, Kazakhstan, Central Asia, India, China, Mongolia.

Genus *Leptochilus* de Saussure, 1853
Leptochilus (Lionotulus) alpestris (de Saussure, 1855)

Material. Azerbaijan: 1♀, Absheron, Primorsk, on Tamarix, 7.06.1986 (KhA).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Jordan, Turkmenistan.

Leptochilus (Neoleptochilus) regulus (de Saussure, 1855)

Material. Azerbaijan: 1♂, Mardakert, Leninavan, 30.08.1980 (KhA).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Cyprus, Syria, Jordan, Iran.

Genus *Microdynerus* Thomson, 1874
Microdynerus (Pseudomicrodynerus) parvulus
(Herrich-Schäffer, 1838)

Material. Azerbaijan: 1♂, Kilyazi, Tazakend, 10.06.2000 (KhA).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (European part, Urals, Western Siberia), Caucasus, Turkey, Iran, Kazakhstan, Uzbekistan.

Microdynerus sp.

Material. 1♂, Azerbaijan: Salyan, Shirvan State Nature Reserve, 6.06.1999 (KhA).

Note. This sample could not be identified to the species level.

Genus *Odynerus* Latreille, 1802
Odynerus (Odynerus) melanocephalus (Gmelin, 1790)

Material. Azerbaijan: 1♂, Milskaya steppe, 17.06.1935 (AB); 1♀, 1♂, Agdash, Turianchay State Nature Reserve, 6.07.1993 (KhA); 1♀, Shemakha, Pirkuli, 13.06.1999 (KhA); 2♂, 1♀, Baku, 17.04.2000 (KhA).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western Siberia), Caucasus, Turkey, Cyprus, Syria, Israel, Jordan, Iraq, Iran, Afghanistan, Kazakhstan, Central Asia.

Odynerus (Odynerus) poecilus de Saussure, 1856

Material. Azerbaijan: 1♂, 1♀, Galaalty, 4.06.1986 (leg. G. Huseynzadeh).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (European part), Azerbaijan, Turkey.

Odynerus (Spinicoxa) albopictus de Saussure, 1856

= *O. calcaratus* Morawitz, 1885.

Material. Azerbaijan: 8♀, Salyan, Shirvan State Nature Reserve, 6.06.1999 (KhA).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Syria, Israel, Jordan, Iraq, Iran, Kazakhstan, Turkmenistan, Uzbekistan.

**Odynerus (Spinicoxa) reniformis* (Gmelin, 1790)

Material. Azerbaijan: 1♀, Ismailly, State Nature Reserve, 1500 m, 13.07.2001 (KhA).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia), Turkey, Azerbaijan, Israel, Kazakhstan.

Genus Onychopterocheilus Blüthgen, 1955

Onychopterocheilus (Onychopterocheilus) crabroniformis (Morawitz, 1867)

Material. Russia: 1♀, Dagestan, Botlikh, Tlokh, 11.05.1988 (KhA).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. Russia (European part, Urals, Western and Eastern Siberia), Azerbaijan, Kazakhstan.

Genus Paragymnomerus Blüthgen, 1938

Paragymnomerus signaticollis (Morawitz, 1888)

Material. Azerbaijan: 1♂, Zakataly, Perzivan, 26.05.1986 (KhA).

Note. The species lives in lowland forested landscapes.

Distribution. Europe (Eastern), Russia (European part), Azerbaijan, Turkey, Turkmenistan, Uzbekistan, Tajikistan.

Genus Pseudopipona de Saussure, 1856

Pseudopipona (Pseudopipona) herrichii (de Saussure, 1856)

Material. Azerbaijan: 1♀, 1♂, Samukh, Karagachly, 3.06.1935 (AB).

Note. The species inhabits middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Caucasus, Turkey, Syria, Kazakhstan, Central Asia, China, Mongolia, North America.

**Pseudopipona (Pseudopipona) lativentris* (Saussure, 1855)

Material. Azerbaijan: 2♂, Absheron, Inzhirnaya, on Foeniculum, 13.09.1986 (KhA).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. North Africa, Southern Europe, Azerbaijan, Turkey, Cyprus, Lebanon, Israel, Iran, Central Asia.

Genus Psiliglossa S. Saunders, 1872

Psiliglossa odyneroides (S. Saunders, 1850)

Material. Azerbaijan: 1♀, Baku, Inzhirnaya, 23.06.1985 (KhA); 1♂, Agdash, Turianchay State Nature Reserve, 8.05.1992 (KhA).

Note. This species inhabits foothill steppe and lowland semi-desert landscapes in sandy places.

Distribution. Europe (Southern and Eastern), Russia (European part), Caucasus, Turkey, Turkmenistan.

Genus Pterocheilus Klug, 1805

Pterocheilus (Pterocheilus) phaleratus (Panzer, 1797)

Material. Azerbaijan: 1♀, Baku, Karadag, 24.04.2000 (KhA); 1♀, Nakhchivan Autonomous Republic, Shakhbuz, Batabat, ca 1870 m, 12.06.2016 (MM).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia), Georgia, Azerbaijan, Turkey, Kazakhstan, Mongolia.

Genus Stenancistrocerus de Saussure, 1863

Stenancistrocerus (Paratropancistrocerus) obstrictus (Morawitz, 1895)

Material. Azerbaijan: 3♂, Salyan, Bendovan, 29.05.2000 (KhA).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. Russia (European part), Caucasus.

Genus Symmorphus Wesmael, 1836

Symmorphus (Symmorphus) bifasciatus (Linnaeus, 1761)

= *S. mutinensis* Baldini, 1894.

Material. Azerbaijan: 1♂, Eli-su, Kakhi distr., 07.1934 (AB); 1♀, Milska steppe, 17.04.1935 (AB). Russia: 1♀, Suda, Cherepovets Distr. (leg. V. Belizin).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Caucasus, Turkey, Kazakhstan, Central Asia, China, Mongolia, Korean Peninsula, Japan.

Genus Syneuodynerus Blüthgen, 1951

Syneuodynerus egregius (Herrich-Schäffer, 1839)

Material. Azerbaijan: 2♀, Mardakert, Leninavan, 30.08.1980 (KhA); 1♀, Agdash, Turianchay State Nature Reserve, 18.08.1998 (KhA); 1♂,

Ismaili, Khanagi, 700 m, 9.07.2001 (KhA); 1♂, Nakhchivan Autonomous Republic, Ordubad, Bilav, 1300 m, 2.06.2016 (MM).

Note. The species inhabits lowland semi-desert and middle mountain steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Caucasus, Turkey, Cyprus, Syria, Israel, Jordan, Iran, Turkmenistan.

Subfamily Polistinae

Genus *Polistes* Latreille, 1802

**Polistes (Polistes) bischoffi* Weyrauch, 1937

Material. Azerbaijan: 1♂, Baku, 2.09.1999 (KhA).

Note. The species inhabits lowland semi-desert landscapes.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Far East), Azerbaijan, Turkey, Iran, Kazakhstan, Mongolia.

Polistes (Polistes) chinensis (Fabricius, 1793)

Material. Azerbaijan: 11♂, Agdash, Turianchay State Nature Reserve, 5.10.1998 (KhA).

Note. This species inhabits in foothill steppe landscapes.

Distribution. Russia (Western and Eastern Siberia, Far East), Azerbaijan, Turkey, Iran, Kazakhstan, China, Mongolia, Korean Peninsula, Japan.

**Polistes (Polistes) dominula* (Christ, 1791)

= *Polistes bucharensis* Erichson, 1849 [Schmid-Egger et al., 2017].

Material. Azerbaijan: 1♂, Kakh, 5.07.1986 (KhA); 7♀, Agdash, Turianchay State Nature Reserve, 1.07.1994 (KhA); 1♀, Yardimli, Kurekchi, 1800 m, 15.08.1995 (KhA); 1♀, Baku, 2.09.1999 (KhA); 2♀, Salyan, Shirvan State Nature Reserve, 3.05.2000 (KhA); 1♀, Salyan, Bendovan, 29.05.2000 (KhA); 1♂, 1♀, Khyzy, Dizavar, 10.08.2000 (KhA); 1♀, Ismaili, Khanagi, 9.07.2001 (KhA); 1♂, 1♀, Quba, Amsar, 700 m, 11.08.2007 (leg. Yunusov); 2♀, Quba, Askipara, 17.08.2007 (leg. Yunusov); 3♀, Shakhbuz, Vaykhir, 3.05.2012 (KhA); 1♀, Babek, Sirab, 22.06.2012 (KhA); 1♂, Ordubad, Bilav, 5.09.2012 (KhA); 4♂, 8♀, Baku, 15.06.2015 (AM); 2♂, 4♀, Gandja, Ashygly, 8.08.2015 (AM); 3♂, 5♀, Baku, Mardakan, 6.09.2015 (AM).

Note. The species inhabits lowland semi-desert, foothill steppe, low-mountain forested, middle-mountain steppe landscapes, reaching up to 1800 m a.s.l.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western Siberia), Transcaucasia, Turkey, Syria, Israel, Jordan, Iran, Afghanistan, Pakistan, Kazakhstan, Central Asia, India, China, Mongolia.

Polistes (Polistes) gallicus (Linnaeus, 1767)

= *Polistes foederatus* Kohl, 1898; = *P. mongolicus* (Buyisson, 1911) [Schmid-Egger et al., 2017].

Material. Azerbaijan: 1♀, Kurtmakhmudly village, Karyagin Distr., 7.05.1920 (EE); 2♀, Shamkir, 11.05.1928 (S); 1♀, Gandja, 14.05.1928 (S); 1♀, Salyany, 21.10.1932 (AB); 1♀, Baku, Zyk, 15.05.1933 (VR); 1♂, 1♀, Karabakh, Lysogorsk, 1800 m, 28.08.1933 (AB); 1♀, Yevlakh, 12.05.1937 (leg. E. Gausser); 3♀, Mardakert, Leninavan, 21.04.1976 (KhA); 1♀, Neftchala, Karaiman, 15.07.1976 (ID); 1♀, Kazakh, 11.05.1979 (KhA); 2♀, Lenkoran, Azfilial, 3–7.10.1984 (KhA); 1♀, Lenkoran, Azfilial, on Geranium, 16.05.1985 (KhA); 2♂, 1♀, 14 km Kilyazi-Altyagach, 25.06.1985 (KhA); 1♂, Lerik, Lalakeran, on Teucrium, 3.07.1985 (KhA); 7♀, Baku, Inzhirnyaya, on Foeniculum, 4.08.1985 (KhA); 3♂, 2♀, Baku, Inzhirnyaya, Foeniculum, 21.08.1985 (leg. N. Aliyeva); 1♂, Absheron, Inzhirnyaya, 28.08.1985 (OA);

3♀, Absheron, Inzhirnyaya, 15.04.1986 (KhA); 4♀, Absheron, Primorsk, on Tamarix, 7.07.1986 (KhA); 2♀, Absheron, Inzhirnyaya, 6.09.1993 (KhA); 6♀, Agdash, Turianchay State Nature Reserve, 2–5.10.1994 (KhA); 3♀, 2♂, Lerik, Gilidara, 20.09.1995 (KhA); 17♂, 4♀, Agdash, Turianchay State Nature Reserve, 5.10.1998 (KhA); 1♀, Sharur, Akhura, 2.06.2003 (KhA); 1♀, Ordubad, Bilav, 27.04.2012 (KhA); Julfa, Ashabi-Kahf, 1.05.2012 (KhA); 1♀, Shamkir, Kura riverside, 24.05.2012 (leg. Sh. Maharramova); 3♀, Babek, Sirab, 22.06.2012 (KhA); 2♀, Ordubad, Bilav, 5.09.2012 (KhA); 1♀, 2♂, Ordubad, Aghdara, 6.09.2012 (KhA); 1♀, Nakhchivan Autonomous Republic, Julfa, Gazanchi, 7.05.2014 (MM); 1♀, 2♂, Baku, 15.06.2015 (AM); 1♂, 1♀, Balakhany, 5.07.2015 (AM); 1♀, Gandja, Ashygly, 8.08.2015 (AM); 1♂, 4♀, Baku, Mardakan, 6.09.2015 (AM); 1♀, Nakhchivan Autonomous Republic, Babek, Zeynaddin, 950 m, 14.06.2016 (MM); 1♀, Nakhchivan Autonomous Republic, Shakhbuz, Shakhbuzkend, 1300 m, 27.06.2016 (MM); 1♀, Nakhchivan Autonomous Republic, Babek, Shikhmahmud, 930 m, 1.07.2016 (MM); 2♀, Nakhchivan Autonomous Republic, Shakhbuz, Batabat, 1800 m, 26.07.2016 (MM). Turkmenistan: 1♀, Mary, Karakum Canal, 3.04.1987 (KhA).

Note. The species lives in all vertical landscape belts except the nival one, reaching up to 2200 m a.s.l.

Distribution. North Africa, Ethiopia, Europe (Western, Southern, and Eastern), Russia (European part, Western Siberia), Transcaucasia, Turkey, Israel, Jordan, Iran, Kazakhstan, Turkmenistan, Kyrgyzstan, Afghanistan, Pakistan, Mongolia.

Polistes (Polistes) nimpha (Christ, 1791)

= *Polistes opinabilis* Kohl, 1898.

Material. Azerbaijan: 1♀, Shakh-dagh Mt, Laza, 25.09.1933 (AB); 1♀, Kusary, Laza, 9.08.1985 (KhA); 1♀, Kakh, 5.07.1986 (KhA); 1♀, Lerik, Gilidara, 2000 m, 21.08.1995 (KhA); 2♀, Nakhchivan Autonomous Republic, Shakhbuz, Batabat, 1800 m, 26.07.2016 (MM).

Note. This species inhabits lowland forested and middle mountain steppe landscapes, reaching up to 2000 m a.s.l.

Distribution. North Africa, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Transcaucasia, Turkey, Israel, Jordan, Iraq, Iran, Kazakhstan, Kyrgyzstan, Pakistan, India, China, Mongolia.

**Polistes (Polistes) semenowi* Morawitz, 1889

Material. Azerbaijan: 1♀, Lerik, Gilidara, 2000 m, 21.08.1998 (KhA).

Note. The species inhabits high-mountain steppe landscapes.

Distribution. North Africa, Southern Europe, Turkey, Azerbaijan, Iran, Turkmenistan.

Polistes (Polistes) sulcifer Zimmermann, 1930

Material. Azerbaijan: 1♂, Ganja, 14.06.1933 (MV).

Note. This species inhabits foothill steppe landscapes.

Distribution. North Africa, Europe (Western, Southern, and Eastern), Russia (European part), Transcaucasia, Turkey, Israel, Iran.

Subfamily Vespinae

Genus *Dolichovespula* (Rohwer, 1916)

**Dolichovespula media* (Retzius, 1783)

Material. Azerbaijan: 1♀, Eli-su distr., Kakh, 1900 m, 11.07.1934 (AB); 2♀, 1♂, Kusary, Laza, 2200 m, 18.08.1980 (KhA).

Note. This species lives in mountain steppes and on mountain slopes of northern exposition. A rare species.

Distribution. Morocco, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals,

Western and Eastern Siberia, Far East), Georgia, Azerbaijan, Turkey, Syria, Kazakhstan, China, Mongolia, Korean Peninsula, Japan.

**Dolichovespula sylvestris* (Scopoli, 1763)

Material. Azerbaijan: 2♀, Lerik, Gilidara, 2000 m, 20–21.08.1995 (KhA).

Note. This species inhabits middle mountain steppes, reaching up to 2000 m a.s.l.

Distribution. Morocco, Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Transcaucasia, Turkey, Syria, Iran, Kazakhstan, Uzbekistan, Kyrgyzstan, Afghanistan, Pakistan, India, China, Mongolia.

Genus *Vespa* Linnaeus, 1758

Vespa crabro Linnaeus, 1758

Material. Azerbaijan: 2♀ Sernye vody, Lenkoran uезд, 18.08.1925 (leg. D. Maskalenko); 1♀, Nakhchivan ASSR, Djafarkhan, 2.10.1927 (leg. Bocharnikov); 2♀, Nakhchivan on Aras, 20.07.1928 (M); 1♀, Zagatala, 27.07.1934 (VR); 1♀, Djapharkhan, Gormabulag, in wood, 20.10.1941 (AB); 1♀, Lenkoran, Azfilial, 10.05.1976 (KhA); 1♀, Yardimli, Avash, 16.06.1996 (KhA); 2♀, Nakhchivan Autonomous Republic, Babek, Sirab, 1200 m, 1.06.2016 (MM). Russia: 1♀, Petergof Station, 2.08.1925 (leg. J. Antonova).

Note. Inhabits forested places. Strongly harmful to beekeeping. To control it, good results were obtained by adding selenium compounds to minced meat placed in the vicinity of apiaries [Kadymov, 1981].

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Georgia, Azerbaijan, Turkey, Iran, Kazakhstan, Turkmenistan, China, Mongolia, Korean Peninsula, Japan.

Vespa orientalis Linnaeus, 1771

Material. Azerbaijan: 1♀, Kzil Orda, 20.06.1926 (leg. K. Ruzayev); Nakhchivan, 26.07.1926 (leg. Kulibekdzda); 2♀, Nakhchivan on Aras, 14.06.1928 (leg. M. Akhnazarov); 1♀, Ordubad, 11.07.1928 (M); 2♀, Ordubad, 24.05.1933 (AB); 3♀, Nakhchivan, 1.10.1948 (leg. Amanov); 1♀, Ordubad, 31.08.1949 (leg. Amanov); 1♀, Baku, 20.09.1985 (leg. A. Piriye); 1♀, 2♀, Nakhchivan Autonomous Republic, Babek, Sirab, 1200 m, 1.06.2016 (MM). Iran: 8♀, Cheshsaray, Alemdar mahal, 2–11.10.1929 (leg. Shlyaposhnikov).

Note. In contrast to *Vespa crabro*, this species settles primarily in open and dry habitats. Over the last 15–16 years there has been an increase in the population numbers on the Absheron Peninsula, especially in the vicinity of garbage dumps.

Distribution. North Africa, Europe (Southern and Eastern), European part of Russia, Transcaucasia, Turkey, Syria, Lebanon, Israel, Jordan, Saudi Arabia, Bahrain, Yemen, Oman, Iraq, Iran, Afghanistan, Pakistan, Turkmenistan, Uzbekistan, Tajikistan, India, Nepal.

Genus *Vespula* Thomson, 1869

Vespula germanica (Fabricius, 1793)

Material. Azerbaijan: 3♀, Nakhchivan, 18.05.1927 (M); 1♀, Kurtmakhmudly village, Karyagin distr. [now Fizuli], 31.05.1929 (EE); 3♀, 1♀, Seid-Duvan, 27.09.1929 (leg. Shlyaposhnikov); 1♀, Milskaya steppe, 15.06.1934 (AB); 1♀, Leninavan village, 21.04.1976 (KhA); 2♀, Talysh, Lenkoran, Azfilial, 10.05.1976 (KhA); 2♀, Absheron, Botanical Garden, 10.07.1976 (ID); 1♀, Absheron, 4.04.1983 (KhA); 1♀, Baku, Inzhirnyaya, 9.05.1985 (KhA); 1♀, Lenkoran, Bilasar, 21.05.1985 (KhA);

1♀, Baku, Inzhirnyaya, on Foeniculum, 24.08.1985 (leg. N. Aliyeva); 2♀, same locality, 28.08–1.09.1985 (OA); 1♀, same locality, 9.09.1985 (leg. S. Kerimova); 1♀, Agdash, Turianchay State Nature Reserve, 8.05.1992 (KhA); 1♀, same locality, 5.10.1998 (KhA); 1♀, Nakhchivan Autonomous Republic, Nakhchivan, 900 m, 25.04.2016 (MM); 4♀, same locality, 900 m, 13–23.05.2016 (MM). Iran: 1♀, 1♂, Shakhverdi, Karadakhski mahal, 13–27.09.1929 (leg. Bordkevitch); 1♀, Chesh-saray, 2.10.1929 (leg. Shlyaposhnikov); 3♀, Veramin, 23.04.1947 (AB). Turkmenistan: 10♀, Ashkhabad, Chuli, 21.09.1981, 27.09.1994 (KhA).

Note. Inhabits all biotopes in Azerbaijan.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Transcaucasia, Turkey, Syria, Lebanon, Israel, Jordan, Iraq, Iran, Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, Afghanistan, Pakistan, India, China, Mongolia, Korean Peninsula, Madeira, Azores, Canaries, North Africa, South Africa, Australia, Tasmania, New Zealand, North America, South America (Argentina, Chile).

**Vespula vulgaris* (Linnaeus, 1758)

Material. Azerbaijan: 2♀, Talysh, Lenkoran, Azfilial, 10.05.1976 (KhA); 1♀, Nakhchivan Autonomous Republic, Shakhbuz, Nursu, 1700 m, 26.06.2016 (MM). Ukraine: 1♀, Poltava, Triby, 4.08.1923 (leg. Belgovsky).

Note. This species inhabits lowland subtropical biotopes.

Distribution. Europe (Western, Northern, Southern, and Eastern), Russia (European part, Urals, Western and Eastern Siberia, Far East), Georgia, Azerbaijan, Turkey, Iran, Kazakhstan, Kyrgyzstan, India, China, Mongolia, Korean Peninsula, Japan.

The wasp family Vespidae in the collection of the Institute of Zoology, Baku is represented by 28 genera and 59 species, nine of which, *Ancistrocerus dusmetiolus*, *Odynerus (Spinicoxa) reniformis*, *Pseudepipona (Pseudepipona) lativentris*, *Polistes (Polistes) bischoffi*, *P. (P.) dominula*, *P. (P.) semenowi*, *Dolichovespula media*, *D. sylvestris* and *Vespula vulgaris*, are new to the fauna of Azerbaijan. A total of 57 species are reported from Azerbaijan, eight from Russia, three from Ukraine, two each from Turkmenistan, Iran and Kazakhstan, and one each from Georgia, Uzbekistan.

References

- Aliyev Kh.A. 1996. Aculeate Hymenoptera. In: Zhivotnyy mir Azerbaydzhana. T. 2. Chlenistonogie [Animals of Azerbaijan. Vol. 2. Arthropoda]. Baku: Elm: 315–328 (in Russian).
- Aliyeva M.G. 2010. Flight dynamics of the wasps from the Eumenidae family (Hymenoptera, Vespidae) in the Nakhchivan AR. *Baki Universitetinin Xəbərləri. Təbiət Elmləri Seriyası*. 2: 55–60 (in Russian).
- Antropov A.V., Astafurova Yu.V., Belokobylskij S.A., Byvaltsev A.M., Danilov Yu.N., Dubovikoff D.A., Fadeev K.I., Fateryga A.V., Kurzenko N.V., Lelej A.S., Levchenko T.V., Loktionov V.M., Mokrousov M.V., Nemkov P.G., Proshchalykin M.Yu., Rosa P., Sidorov D.A., Sundukov Yu.N., Yusupov Z.M., Zaytseva L.A. 2017. Annotated catalogue of the Hymenoptera of Russia. Volume I. Symphyta and Apocrita: Aculeata. In: Proceedings of the Zoological Institute of the Russian Academy of Sciences. Supplement № 6. St Petersburg, Zoological Institute of the Russian Academy of Sciences: 1–475.
- Bogachev AB. 1951. Class Insecta. In: Zhivotnyy mir Azerbaydzhana [Fauna of Azerbaijan]. Baku: Academy of Sciences of Azerbaijan SSR: 271–375 (in Russian).
- Carpenter J.M. 1986. A synonymic generic checklist of the Eumeninae (Hymenoptera: Vespidae). *Psyche*. 93(1–2): 61–90. DOI: 10.1155/1986/12489

- Carpenter J.M. 1996. Distribution checklist of species of the genus *Polistes* (Hymenoptera: Vespidae: Polistinae: Polistini). *American Museum Novitates*. 3188: 1–39.
- Carpenter J.M. 2001. Checklist of species of the subfamily Masarinae (Hymenoptera: Vespidae). *American Museum Novitates*. 3325: 1–39.
- Carpenter J.M., Kojima J. 1997. Checklist of the species in the subfamily Vespinae (Insecta: Hymenoptera: Vespidae). *Natural History Bulletin of Ibaraki University*. 1: 51–92.
- Ebrahimi E., Carpenter J.M. 2008. Catalog of the vespid wasps of Iran (Hymenoptera, Vespidae). *Zootaxa*. 1785(1): 1–42. DOI: 10.11646/zootaxa.1785.1.1
- Fateryga A.V. 2017. New records of solitary vespid wasps (Hymenoptera: Vespidae: Eumeninae, Masarinae) from Russia and adjacent countries. *Far Eastern Entomologist*. 334: 1–16.
- Fateryga A.V., Mokrousov M.V. 2019. New records of eumenine wasps (Hymenoptera: Vespidae: Eumeninae) from Russia with description of a new species of *Leptochilus* de Saussure, 1853. *Zootaxa*. 4612(3): 412–422. DOI: 10.11646/zootaxa.4612.3.7
- Fateryga A.V., Proshchalykin M.Yu., Aliyev Kh.A., Maharramov M.M. 2019. To the knowledge of eumenine wasps (Hymenoptera: Vespidae: Eumeninae) of Nakhchivan Autonomous Republic of Azerbaijan. *Far Eastern Entomologist*. 379: 25–32. DOI: 10.25221/fee.379.2
- Kadymov V.A. 1981. Common Hornet (*Vespa crabro* L.) of the Lenkoran zone of Azerbaijan. *Izvestiya Akademii nauk Azerbaydzhanskoj SSR. Seriya biologicheskikh nauk*. 3: 92–96 (in Russian).
- Kostylev G. 1940. Espèces nouvelles et peu connues de Vespides, d'Euménides et de Masarides paléarctiques (Hymenoptera) II. *Bulletin de la Société des Naturalistes de Moscou. Section Biologique*. 49(5–6): 24–42.
- Morawitz F. 1885. Eumenidarum species novae. *Horae Societatis Entomologicae Rossicae*. 19: 135–181.
- Morawitz F. 1895. Materialien zu einer Vespidenfauna des Russischen Reiches. *Horae Societatis Entomologicae Rossicae*. 29: 407–493.
- Schmid-Egger C., van Achterberg K., Neumeyer R., Morinière J., Schmidt S. 2017. Revision of the West Palaearctic *Polistes* Latreille, with the descriptions of two species – an integrative approach using morphology and DNA barcodes (Hymenoptera, Vespidae). *ZooKeys*. 713: 53–112. DOI: 10.3897/zookeys.713.11335
- Tobias V.I., Kurzenko N.V. 1978. Family Eumenidae. In: *Opredelitel' nasekomykh evropejskoj chasti SSSR. Tom 3. Pereponchatokrylyye. Pervaya chast'* [Keys to the insects of the European part of the USSR. Vol. 3. Hymenoptera. Part 1]. Leningrad: Nauka: 152–173 (in Russian).
- Yıldırım E. 2012. The distribution and biogeography of Vespidae (Hymenoptera: Aculeata) in Turkey. *Turkish Journal of Zoology*. 36(1): 23–42.
- Yıldırım E., Gusenleitner J. 2012. Contribution to the knowledge of the Vespidae (Hymenoptera, Aculeata) of Turkey, with a checklist of the Turkish species. *Turkish Journal of Zoology*. 36(3): 361–374. DOI: 10.3906/zoo-1012-62

Received / Поступила: 13.03.2019

Accepted / Принята: 11.08.2019